KU LEUVEN

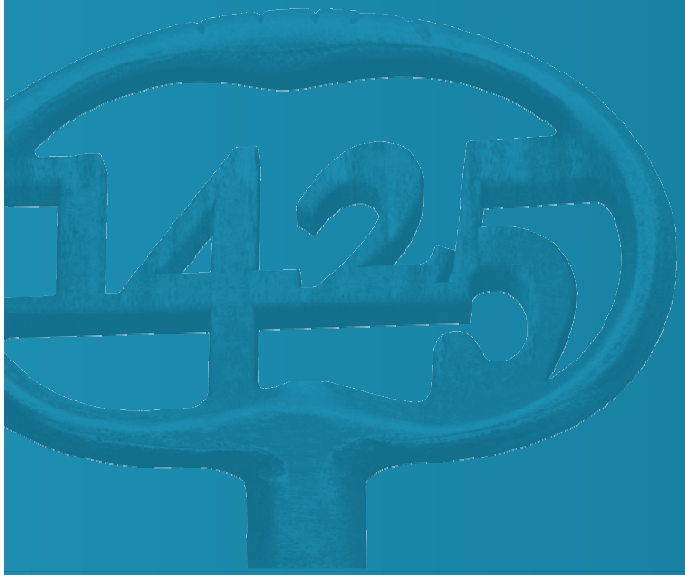
European Social Survey

Mode Preference as a Covariate for Estimating Mode Effects

Caroline Vandenplas, Jorre Vannieuwenhuyze, &
Geert Loosveldt
Centre for Sociological Research
K.U.Leuven

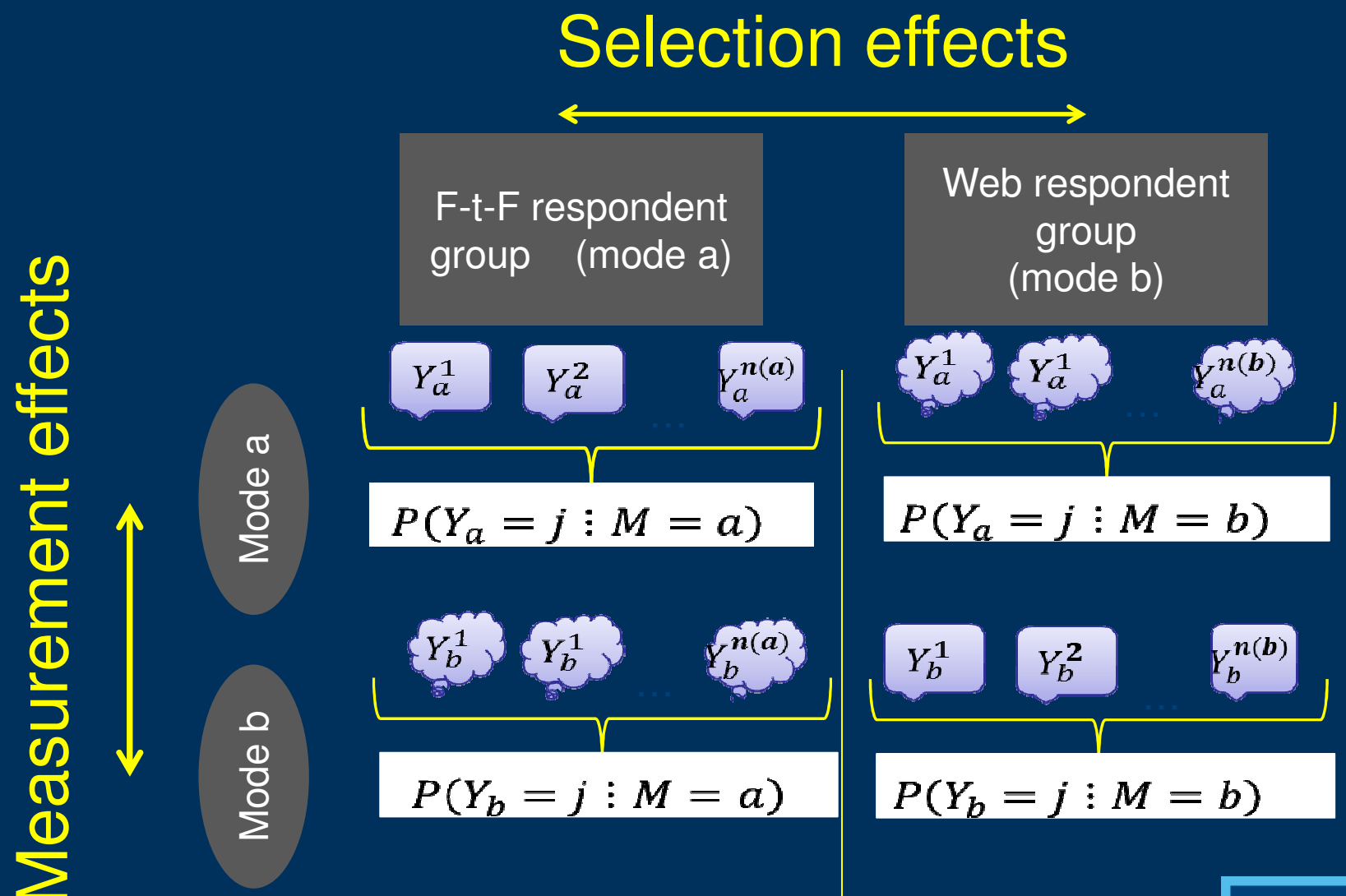
Total Survey Error conference
Baltimore, 20-22 September

Motivation for the research



KU LEUVEN

Measurement and selection effects

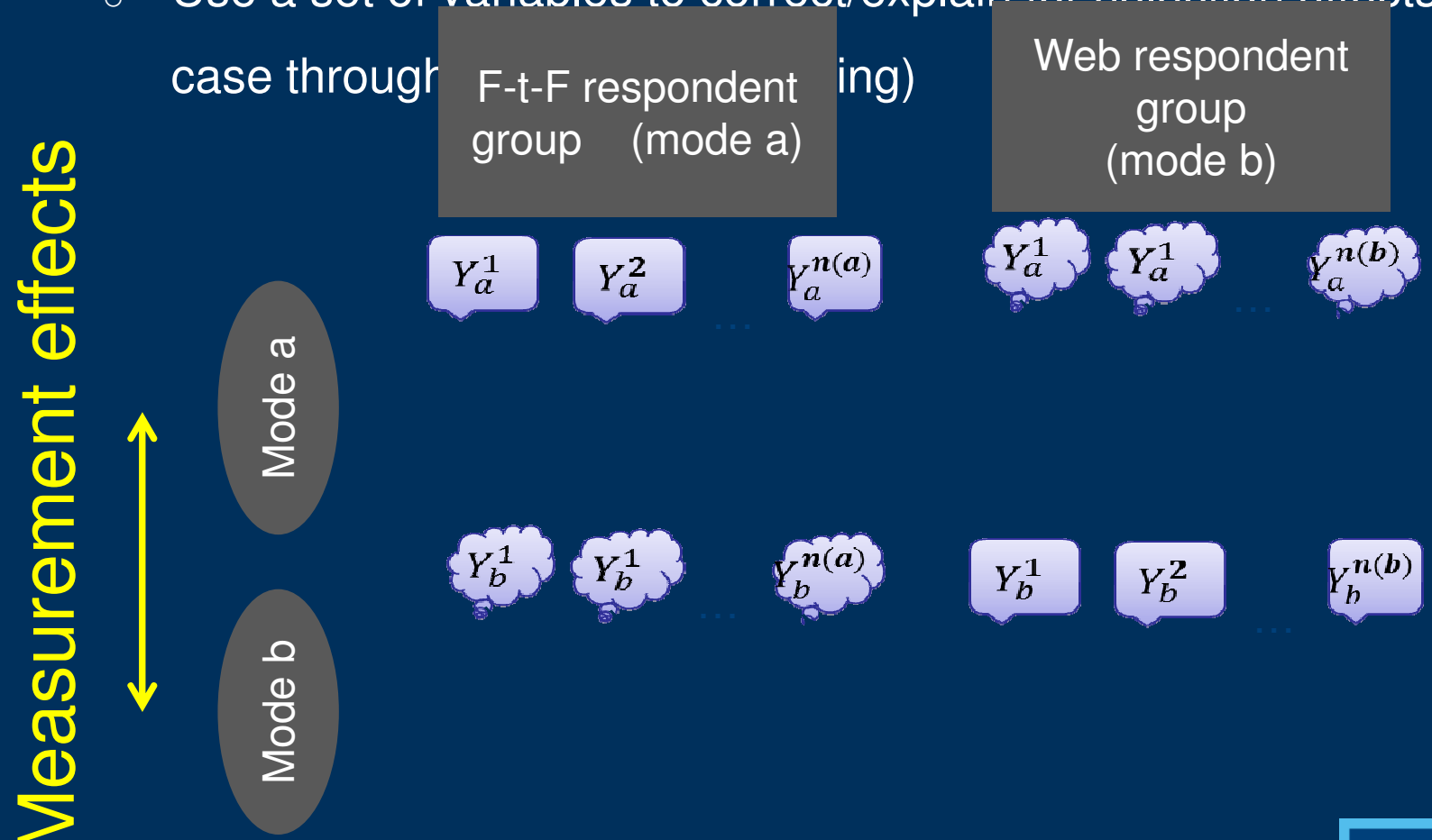


KU LEUVEN

The back-door method and its assumptions

Selection effects

- Use a set of variables to correct/explain for selection effects (in our case through ing)



KU LEUVEN

The back-door method and its assumptions

- The set of variables have to obey two conditions:
  1. Mode-selection ignorability
  2. Mode-insensitivity
- What set of variables?????
  1. Socio-demographical? Fulfill 2. but not 1. -> we do not equate the web respondent with the face-to-face respondents leading to underestimating the selection effect

KU LEUVEN

Aim of this research: including mode preference variables?

The balance between the two assumptions is hard to reach.

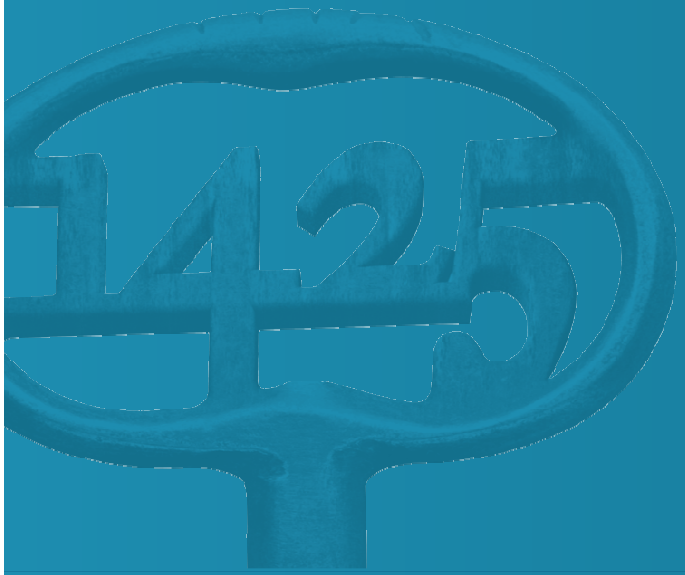
So far, mode-insensitivity has taken more importance than mode ignorability

BUT what if we let go a little of the mode-insensitivity to gain in mode ignorability…

Introduce mode preference variables as back door variables, does not fulfill mode-insensitivity but offers maybe a better balance between the mode–insensitivity and mode-ignorability assumption

KU LEUVEN

The data



KU LEUVEN

The ESS Mixed Mode test in Estonia

- Individual random sample of 925 units from population register
- The design

Web (356 respondents, 38.4%)	F-t-F(230 respondents, 24.8%)

- Response rate 63.3% (ESS main 64.2%)
- Sample composition:
  - More young
  - More educated
  - More people leaving in the North of Estonia

participated to the web component

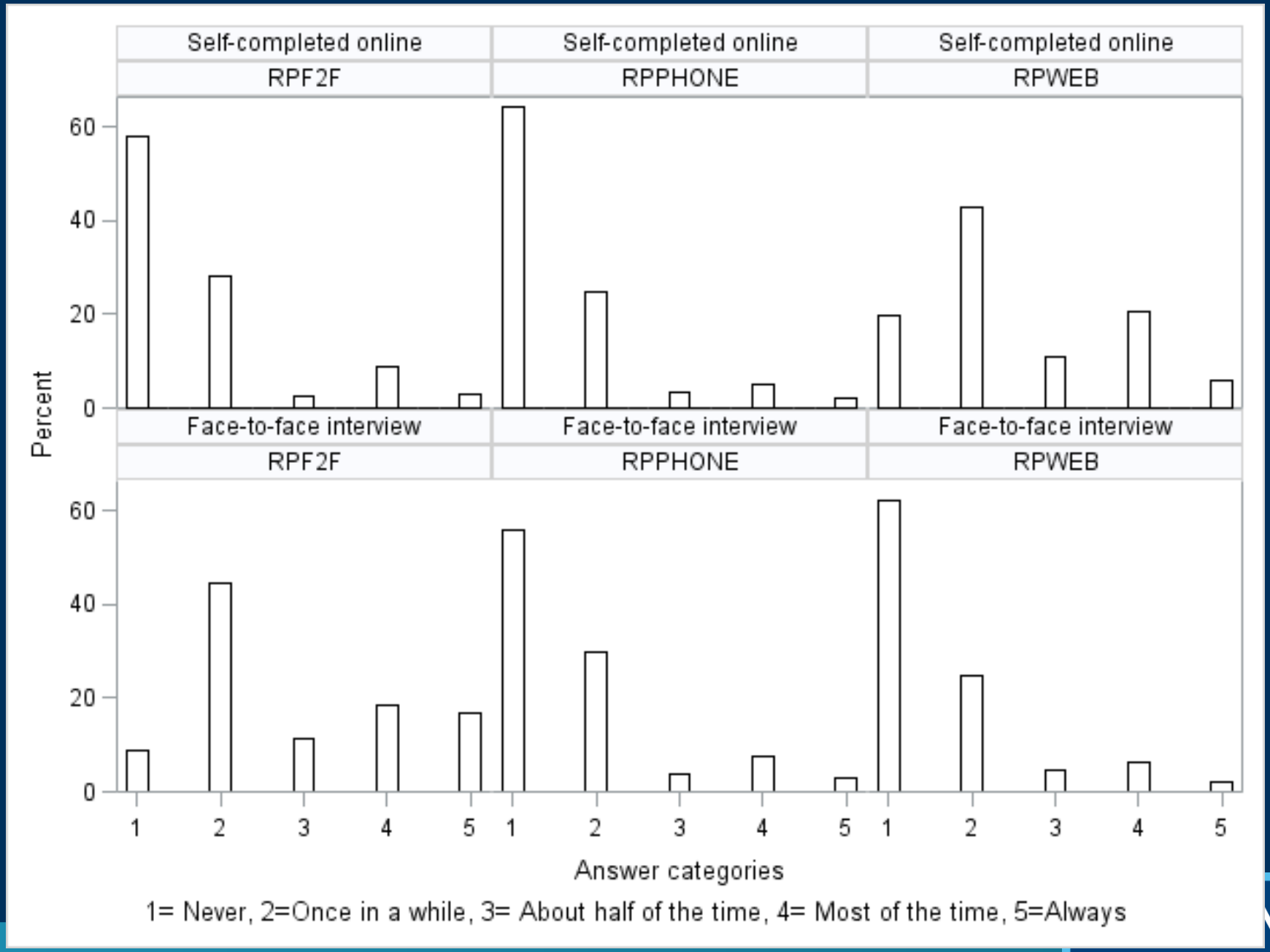
KU LEUVEN

Aim of this research: including mode preference variables?

- Supplementary questionnaire in Mixed-mode:
  - RPWEB: Would you respond if invited to complete internet questionnaire?
  - RPPHONE: Would you respond if invited to complete telephone interview?
  - RPF2F: Would respond if invited to complete a face to face interview?

1=Never, 2=Once in a while, 3=About half of the time, 4=Most of the time, 5=Always

KU LEUVEN


Self-completed online
RPF2F
Self-completed online
RPPHONE
Self-completed online
RPWEB
Face-to-face interview
RPF2F
Face-to-face interview
RPPHONE
Face-to-face interview
RPWEB
Percent
0
20
40
60
1
2
3
4
5
Answer categories
1= Never, 2=Once in a while, 3= About half of the time, 4= Most of the time, 5=Always

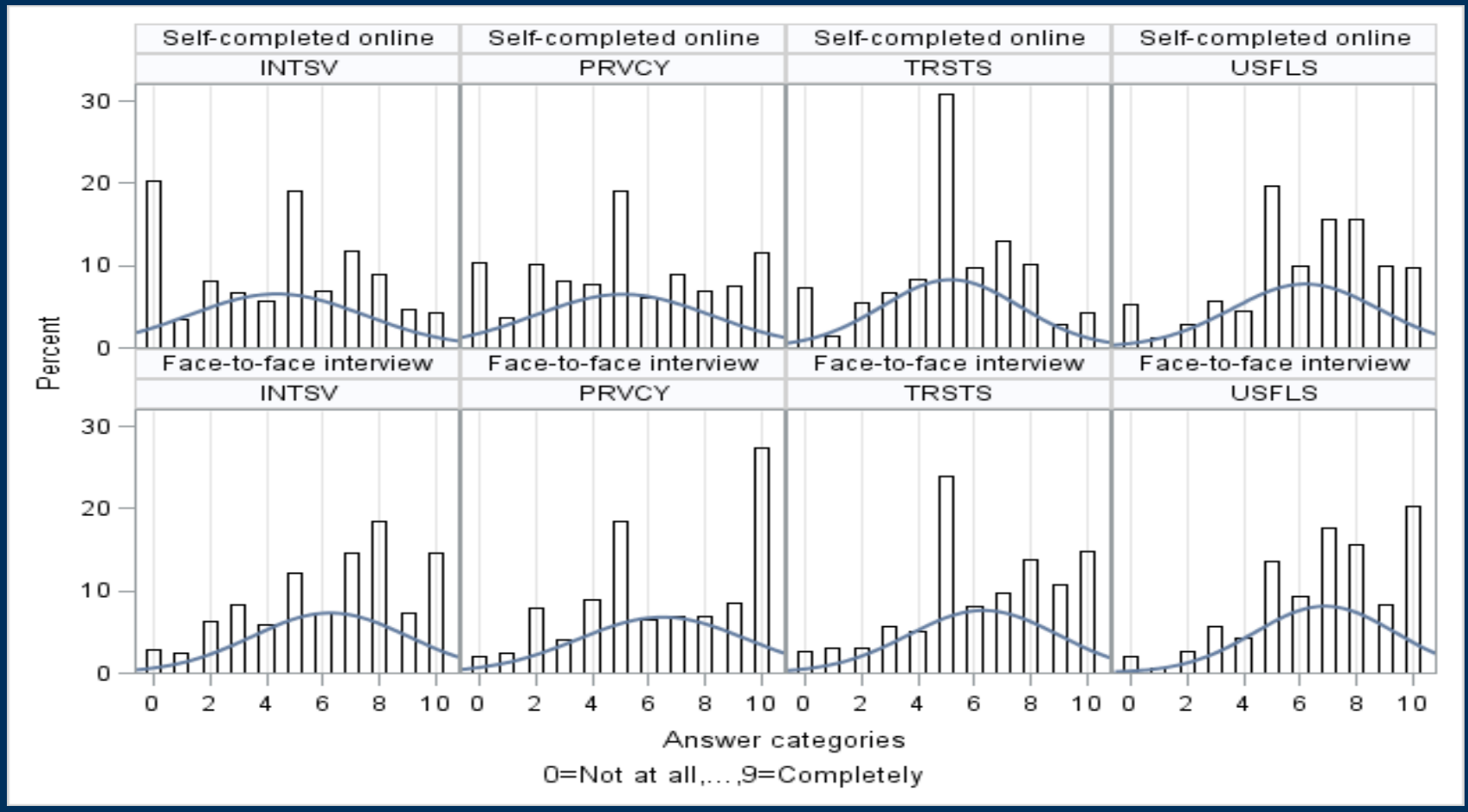
Variables likely to be affected by mode effect: Survey attitudes

- PRVCY: Do you find that survey are an invasion of people's privacy?
- TRSTSVY: Do you trust results obtained from a survey like this?
- INTSVY: Do you find surveys like this are interesting?
- USFLSVY: Do you find surveys like this are useful?

- with answer categories 0='Not at all', 1,…, 9, 10= 'Completely' (11-point scale)

KU LEUVEN

Attitudes towards surveys (11-point scale)



Social desirability effect in face-to face

KU LEUVEN

Attitudes toward Surveys(11-point scale)

- Negative measurement effect: web respondents given more negative answers than the face-to-face respondents subject to social desirability
- Positive selection effect: web respondent having more positive attitudes toward surveys

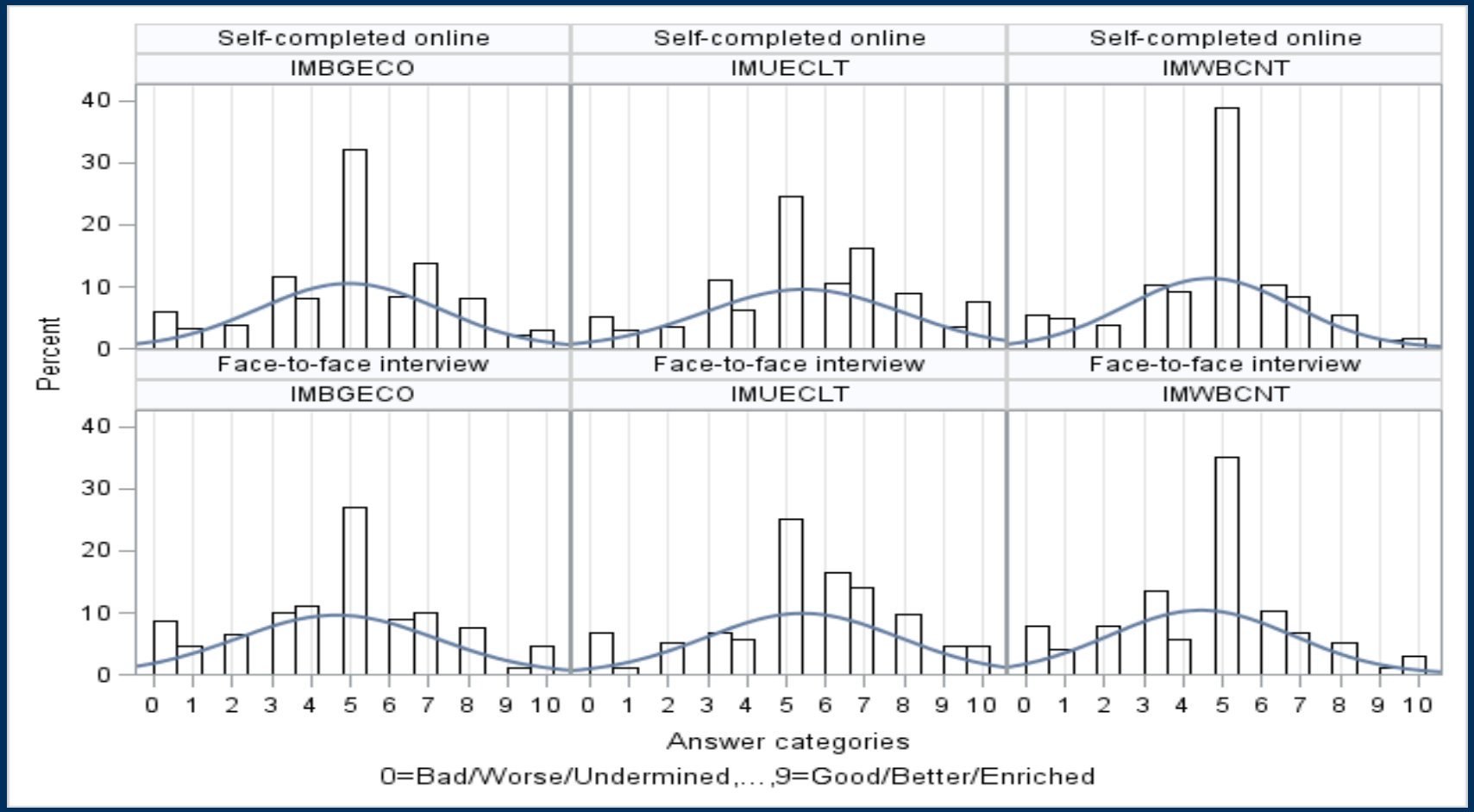
KU LEUVEN

Variables likely to be affected by mode effect: Attitude towards immigration

- IMBGECO: Would you say it is generally bad or good for [country]'s economy that people come to live here from other countries?
- IMUECLT: And, using this card, would you say that [country]'s cultural life is generally undermined or enriched by people coming to live here from other countries? IMWBCNT: Is [country] made a worse or a better place to live by people coming to live here from other countries?
- with answer categories 0='Bad/ Undermined/Worse ', 1,2, ..,8,9, 10='Good/enriched/Better.
- 11-point scale

KU LEUVEN

Attitudes toward immigration (11-point scale)



Social desirability effect in face-to face

KU LEUVEN

Attitudes toward immigration (11-point scale)

- Negative measurement effect: web respondents given more negative answers than the face-to-face respondents subject to social desirability
- Positive selection effect: web respondent having more positive attitudes toward immigration

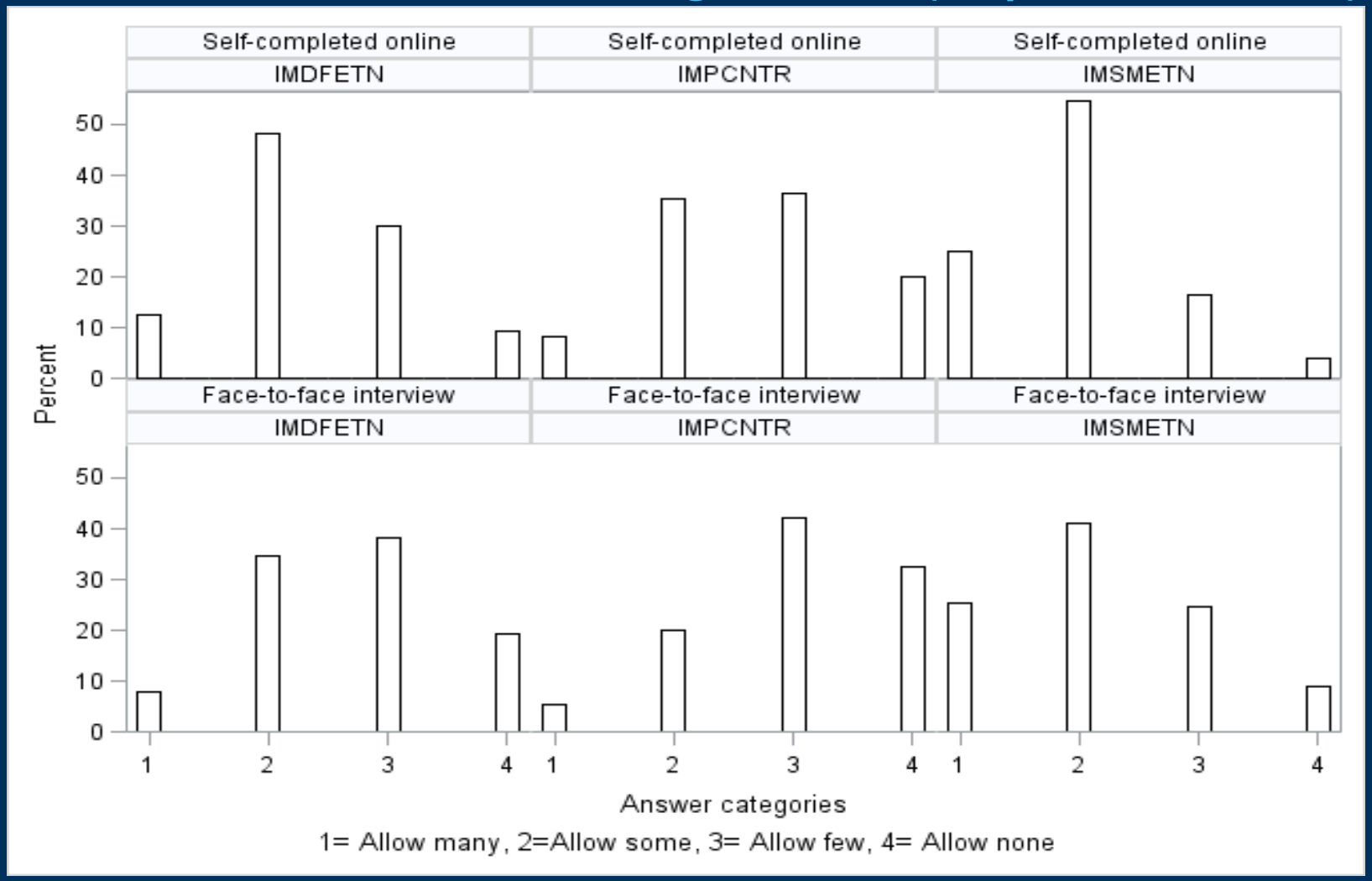
KU LEUVEN

Variables likely to be affected by mode effect: Attitude towards immigration

- IMSMETN: To what extent do you think [country] should allow people of the same race or ethnic group as most [country] people to come and live here ?
- IMDFETN :How about people of a different race or ethnic group from most [country] people?
- IMPRCNTR: How about people from the poorer countries outside Europe?
- with answer categories: 1= Allow Many, 2=Allow Some, 3= Allow few, 4= Allow none, (scale inverted such that higher numbers reflect more positive attitudes towards immigration.)
- 4-point scale

KU LEUVEN

Attitude towards immigration (4-point scale)



Primacy effect in Web

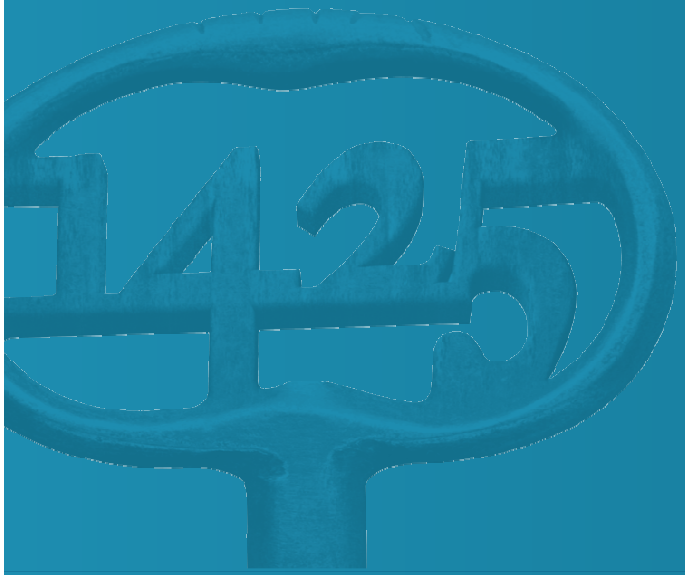
KU LEUVEN

Attitude towards immigration (4-point scale)

- Positive measurement effect: web respondent giving more positive answer (inverted scale) because of primacy effect
- Positive selection effect: web respondents having in general more positive attitudes towards immigration

KU LEUVEN

Results



KU LEUVEN

Are mode preference better at explaining selection effects?

- Model fit of the logistic regression explaining web participation compare to face-to-face participation (no respondents not considered):
  1. Gender, age, employed, education and geographical region
  2. ADD the three mode preference variables

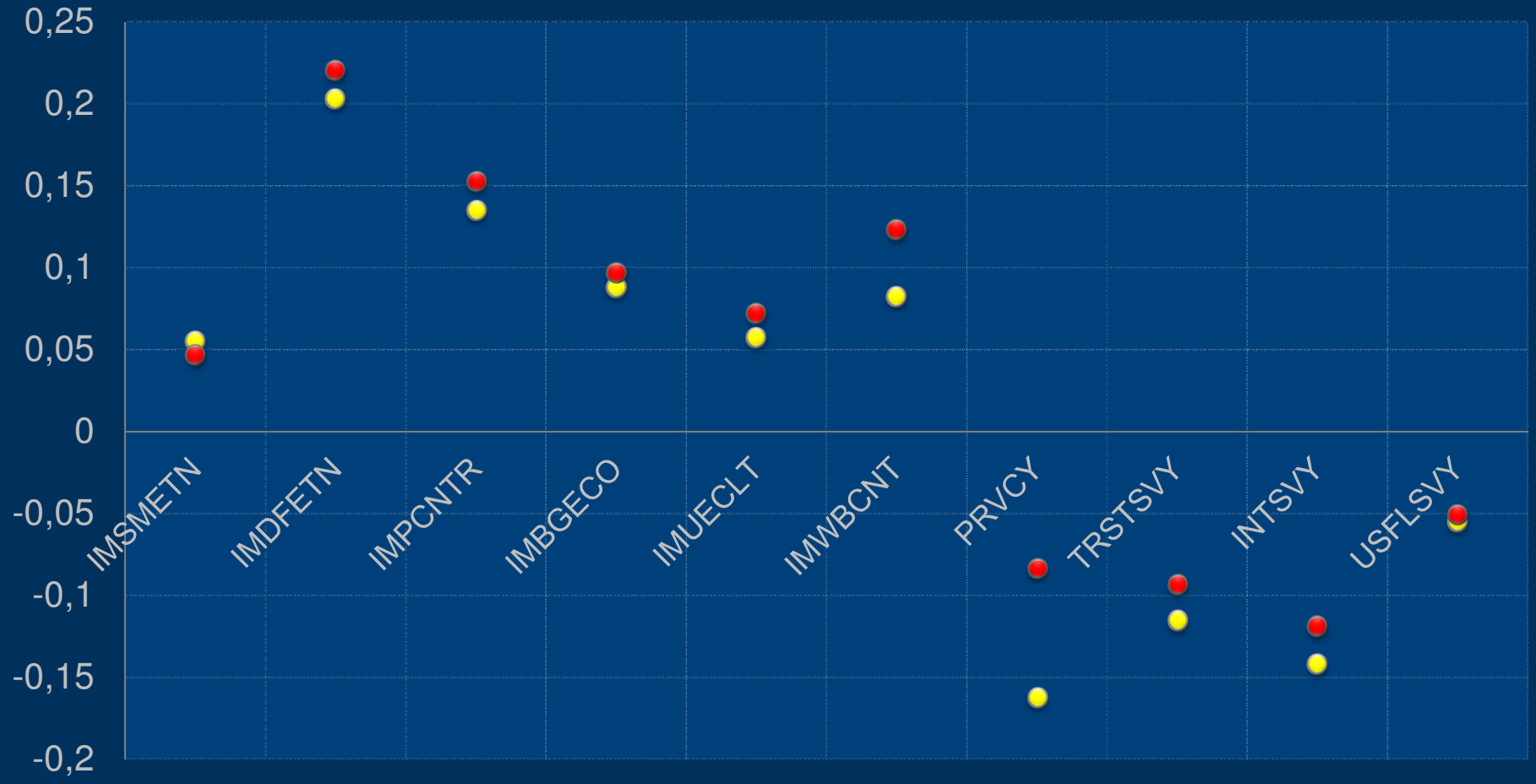
	Model 1	Model 2
AIC	689.3	420.6
Nagelkerke R	0.17	0.66

Residual Chi-square test :

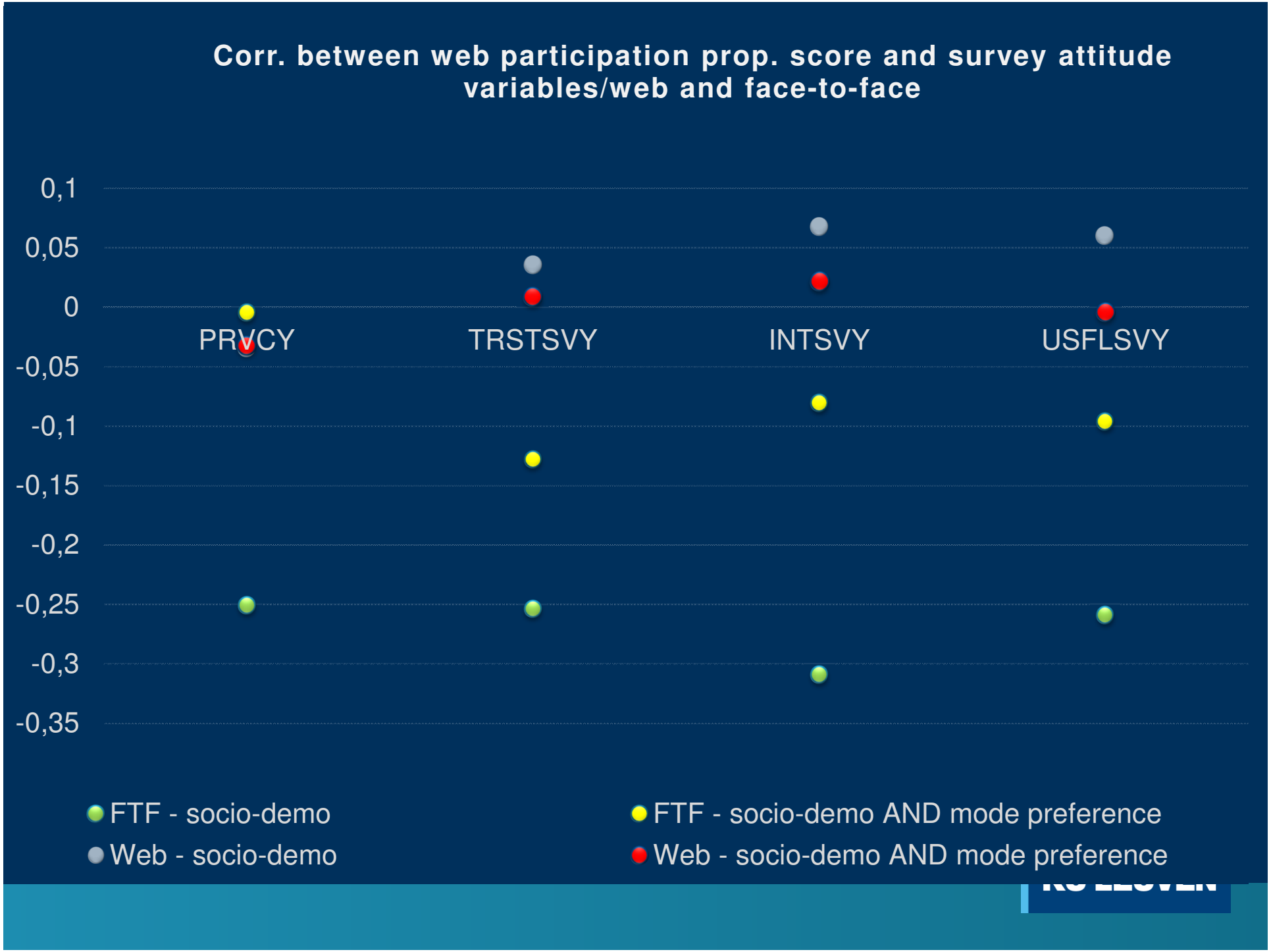
Score: 141.7/118.73 with p-values <0.001 for 4 degrees of freedom for RPF2F and RPWEB respectively).

KU LEUVEN

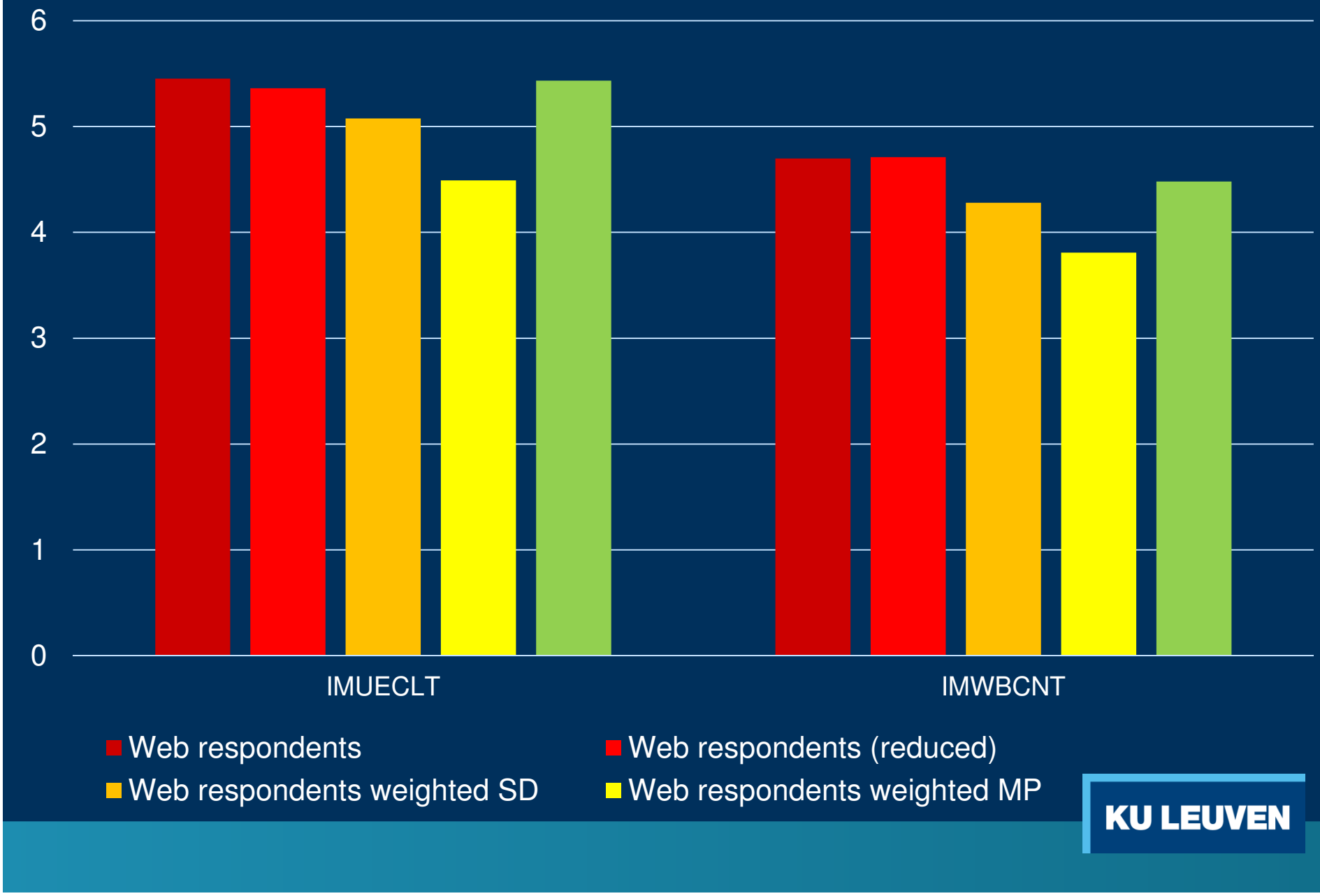
Correlations between web participation propensity score and target variables



- prop. score based on socio-demographical variables
- prop. score based on socio-demographical variables AND mode preference

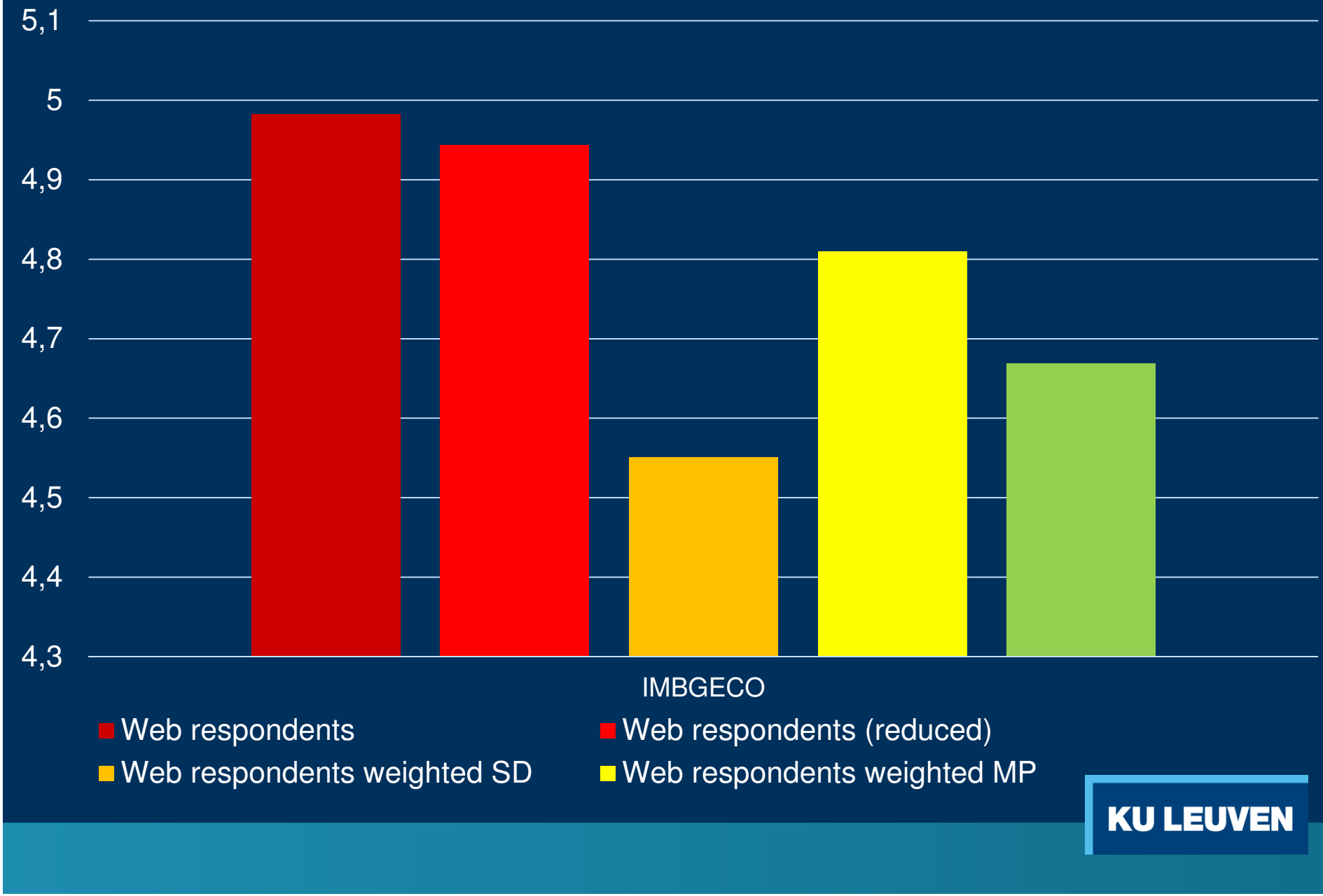

Corr. between web participation prop. score and survey attitude variables/web and face-to-face
0,1
0,05
0
-0,05
-0,1
-0,15
-0,2
-0,25
-0,3
-0,35
PRVCY
TRSTSVY
INTSVY
USFLSVY
FTF - socio-demo
Web - socio-demo
FTF - socio-demo AND mode preference
Web - socio-demo AND mode preference

Attitudes towards immigration (11-point scale)



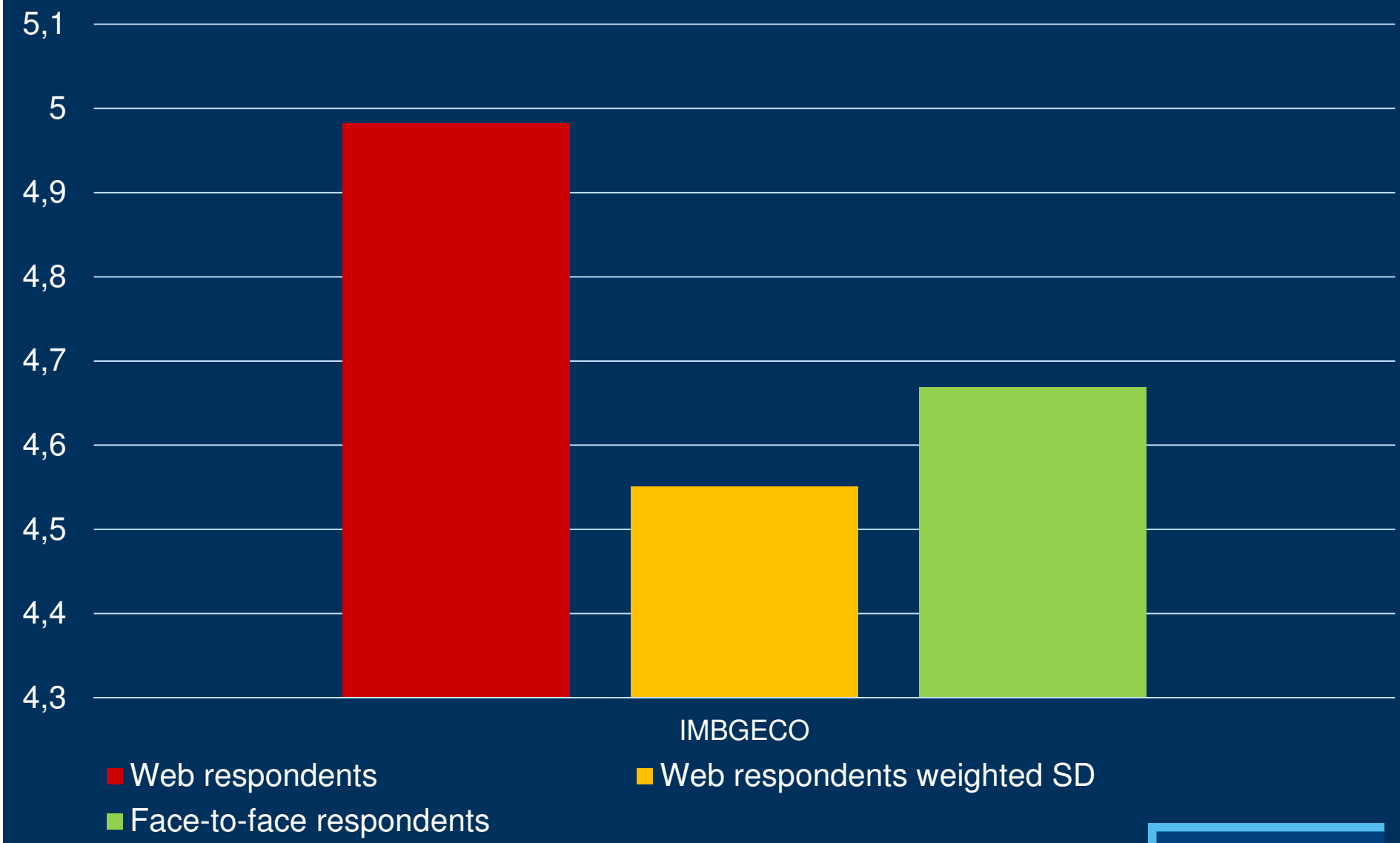
KU LEUVEN

Attitudes towards immigration (11-point scale)



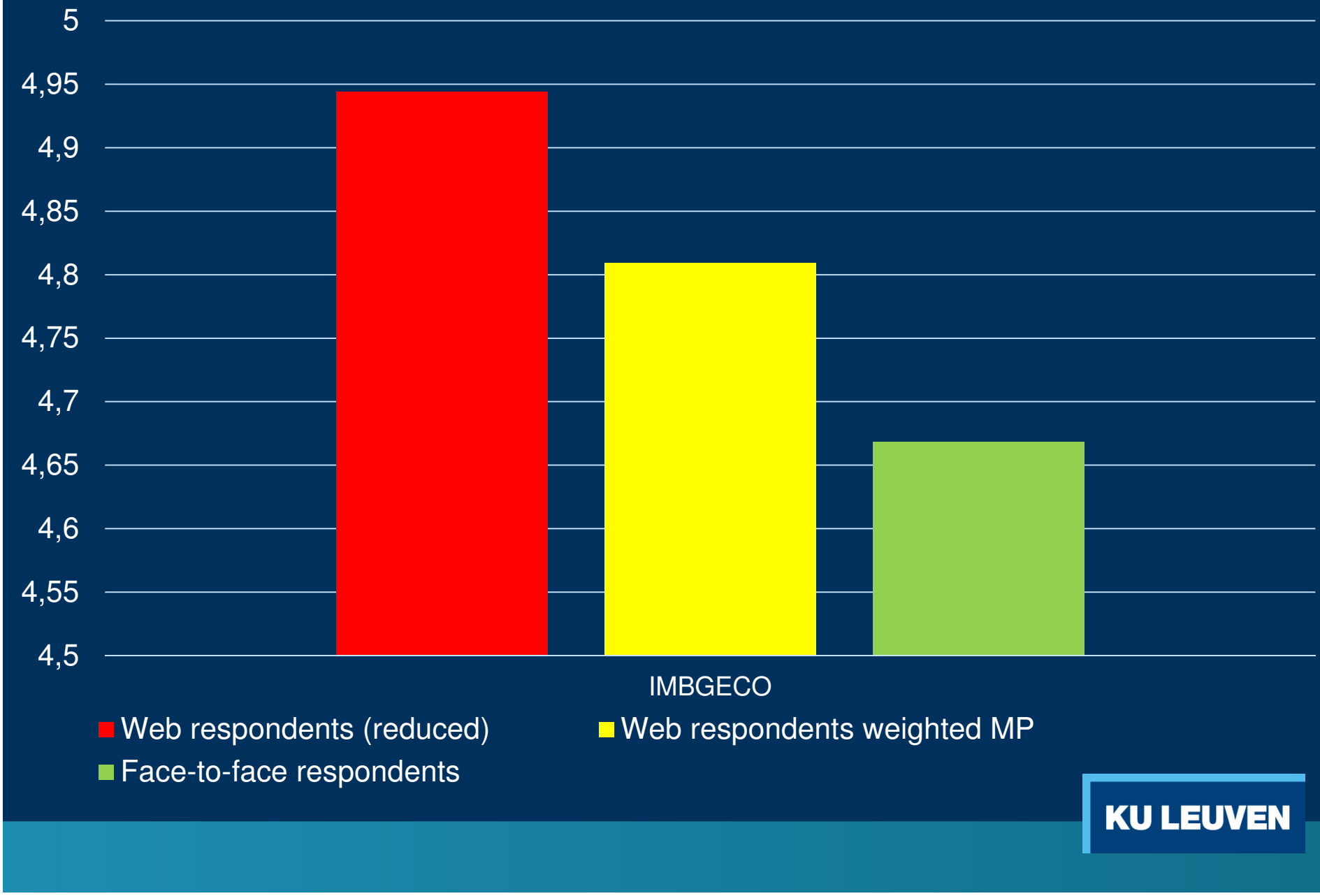
KU LEUVEN

Attitudes towards immigration (11-point scale)



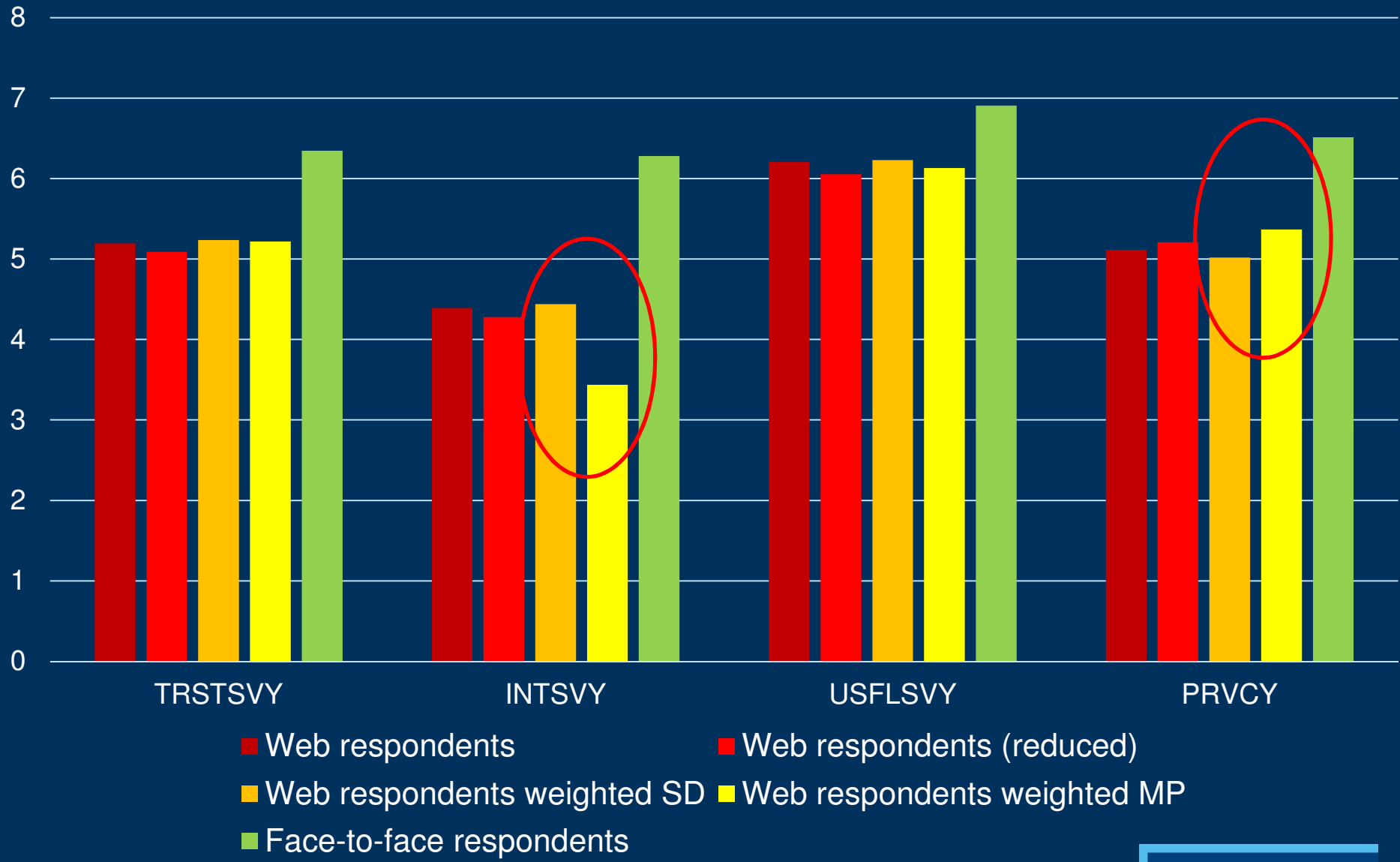
KU LEUVEN

Attitudes towards immigration (11-point scale)



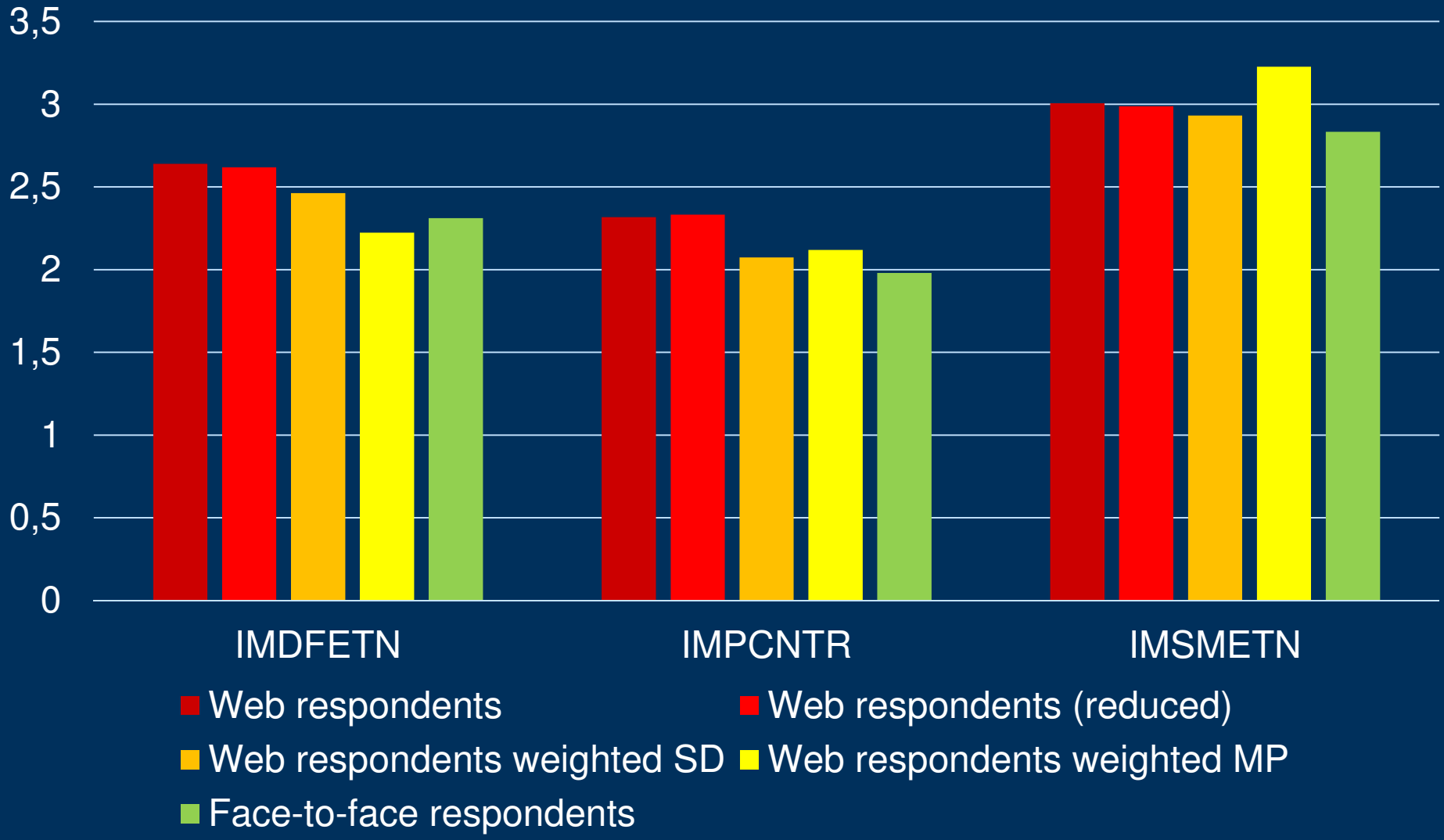
KU LEUVEN

Attitudes towards Survey (11-point scale)



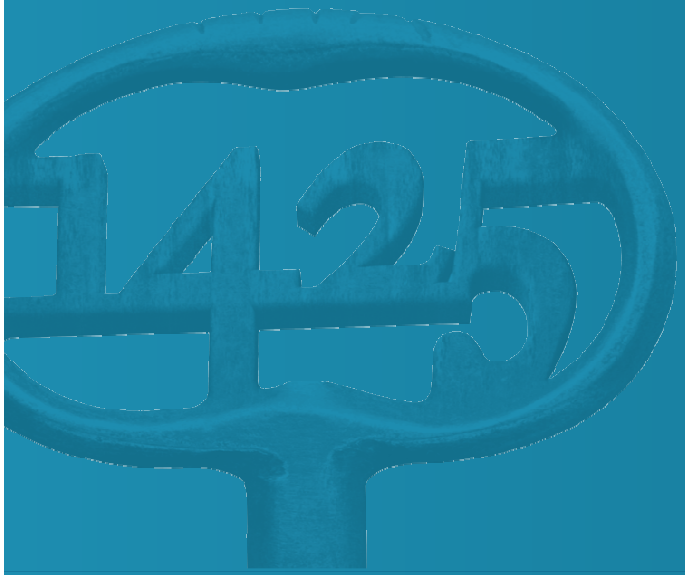
KU LEUVEN

Attitudes towards immigration (4-point)



KU LEUVEN

Conclusion?



KU LEUVEN

1. Can we use mode preference variables when applying the back-door method?
   - The MP variables seem to better explain selection effect <- mode-ignorability assumption
   - BUT the mode-insensitivity assumption is probably violated
2. Do we achieve a better balance?
   - It corrects better for selection effect (following expectations) BUT for IMBGECO, PRVCY and IMSMETN over correct for IMDFETN
   - As a result the measurement effects also are closer the expectations
3. Differences in correlation between propensity scores and survey attitude variables for web and FTF respondents
4. Importance of understanding all possible measurement effect: Primacy/socio-desirability

Thank you!!!

Caroline.Vandenplas@soc.kuleuven.be

KU LEUVEN